REMARKS

Claims 1-5, 8, and 10-15 were presented for examination and were rejected. Claim 1 has been amended to expressly state that the composition is a mixture of PTH and a PTH fragment in addition to other limitations. The amendment is supported throughout the specification and adds no new matter. Entry of the amendment and reconsideration in view of the following comments are respectfully requested.

The Examiner previously rejected the claims as allegedly anticipated by Gao. The Applicants pointed out in previous responses and in an interview with the Examiner held on May 7, 2007, that Gao does not teach a single composition that contains all of the elements required by claim 1. In particular, Gao does not disclose a mixture of PTH and a PTH fragment. The Applicants appreciate withdrawal of the anticipation rejection.

The Examiner has also previously rejected the claims as obvious under 35 USC 103 based on Gao in view of Holthius. The present rejection does not differ in any real way from the previous ones based on this same combination of references, and is traversed for the same reasons previously stated: Holthius does not overcome the deficiency in Gao. Gao does not disclose or suggest mixing PTH with a PTH fragment. It does not disclose or suggest a reason to store or preserve such a mixture. Holthius offers, at most, a way to prepare a mixture for storage. But, without motivation to both make and store the mixture, there is no reason to combine Gao with Holthius.

In this Office Action, the Examiner discussed the interview and agreed that Gao et al. does not anticipate the claims, but restated the same obviousness rejection that has been presented before, and made the following statements to "clarify the Office position":

> The instant invention is drawn to an assay control of PTH. The control comprises two peptides, one is the whole PTH, and the other is the PTH fragments [sic] with certain positions as recited in the claim 1. Furthermore, these peptides have protein matrix and are lyophilized. The above prior art, particularly Gao et al. reference has all the features except the PTH fragments lyophilized and serum treated.

> Since the current application is a product claim, MPEP § 2112 states "[Where] the claimed and prior art products are identical or substantially identical in *structure or composition*, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." In re Best, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977)(emphasis added). With respect to the two main peptides used in this invention, Gao et al. also teaches using the recited peptides. Thus the whole PTH and PTH fragments taught by Gao et al. can also perform the control assay as recited in the instant claim. With respect to the usage of protein matrix, such as serum, and lyophilization method for storage, examiner has provide a second reference Holthius et al. where the usage of serum and lyophilization is well-known and widely practiced in the art to preserve stability of PTH and for better reconstruction.

From this, and the obviousness rejection as it is repeated in this Office Action, it seems that the Office fails to fully understand the invention: it is a single composition, that contains PTH and a PTH fragment mixed together, intended for storage. It contains a known concentration of each of these, so it can serve as an assay control, and it contains a protein matrix base; and together, these components are lyophilized.

The Examiner cited *In re Best*: that case is inapplicable because the references do not disclose a composition that contains PTH and a PTH fragment. Gao mentions both species separately, but if that were enough to create an obviousness argument, most compositions that contain known compounds would be 'obvious' in view of the Aldrich catalog of chemicals. The separate disclosure of PTH and a separate PTH fragment does not disclose a composition containing PTH and a PTH fragment. Thus *In re Best* is inapplicable.

Furthermore, the obviousness analysis fails because the references do not disclose one of the limitations of the claim. The claim requires "a composition having a known concentration of a whole PTH component and a known concentration of a PTH fragment." The references do not disclose such a composition, nor has the Examiner explained any reason to make one. Simply assuming one could mix together the separate components that are mentioned in a reference, without providing a reason to do so, ignores the express requirement in the PTO's post-*KSR* guidance to Examiners: "*Therefore, in formulating a rejection under 35 U.S.C. 103(a) based upon a combination of prior art elements, it remains necessary to identify*

the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed."

In the latest rejection, the Examiner says "Gao et al. do not explicitly teach treating the other PTH fragments with the serum and lyophilization for storage." The deficiency in the Gao reference, though, is much bigger than that: Gao does not teach combining PTH with a PTH fragment. It may separately disclose each of these materials. But why, based on Gao, would a person of ordinary skill have mixed them together? And then combined with a protein matrix base and lyophilized? Without explaining why one would make a composition that Gao does NOT disclose, and a reason to store that composition, nothing that Holthius teaches is relevant. The person of ordinary skill has no motivation to make a mixture containing the materials required by the claim and/or to lyophilize it.

The reference describes assays that use PTH, and it describes assays that use PTH fragments. It does not disclose any composition that includes both. The Examiner has previously pointed to Figure 2, as allegedly anticipating this claim, because two lines on the same chart display measurements of PTH and PTH 7-84. And again, in rejection of claims 2 and 14-15, the Examiner says, that Gao teaches "mixing the whole PTH component with the PTH fragment in a predetermined ratio (see Figure 2)." The Applicants believe, from reading the description in the reference, that the determinations of PTH and PTH(7-84) were run as separate assays: the assay relies upon measuring radioactivity of a labeled antibody, and if the two PTH species were combined, it would not be possible to know which antibody bound to which PTH species. Thus the graphs in Figure 2 do not describe a mixture of PTH with a PTH fragment. But even if the PTH and PTH fragment were measured together, the mixture would not be a composition that is substantially similar to the claim, which requires a lyophilized composition: it is clear that the compositions used to make the graph in Figure 2 were not lyophilized.

The Examiner has also previously pointed to the Materials and Methods section of Gao (pg. 606, rt col.) as though it discloses such a mixture, but it does not. As stated in the previous response and as discussed in the interview, that section merely describes making a lyophilized

control with PTH alone. It separately discusses the sources from which PTH fragments were obtained, but it is clear from reading this section that it **does not** disclose a mixture of PTH with a PTH fragment.

In order to reject a claim as obvious, the Examiner must explain why a person of ordinary skill would have been motivated to combine or modify references to arrive at the claimed composition. Holthius discloses lyophilization methods, but even if it provided a reason to lyophilize PTH or a PTH fragment, there is simply NOTHING in Gao and nothing in the rejection to explain WHY one would mix PTH with a PTH fragment, in known concentrations, add a protein matrix base, and lyophilize the mixture to arrive at the claimed composition. That question is overlooked; instead the Office argues why one might apply methods from Holthius to such a mixture if one had it and wanted to store it. The fact that a mixture could be made is no basis for a rejection: there must be a reason for the person of ordinary skill to make the mixture. And to arrive at the claimed composition, there must also be a reason to lyophilize it. None is given here.

Gao does not disclose the mixture of PTH and a PTH fragment, and it does not disclose a reason to make such a mixture. It also does not disclose a reason to make the mixture and then lyophilize it. *In re Best* is irrelevant because the combined references neither disclose nor suggest a mixture of PTH and a PTH fragment, and they neither disclose nor suggest a reason to lyophilize such a mixture. Holthius does not overcome these deficiencies, because it, too, offers no reason to make and store a mixture of PTH with a PTH fragment. This rejection fails to provide all of the elements of the claimed invention, and it fails to show motivation to modify what is disclosed to arrive at the claimed invention. No *prima facie* case for an obviousness rejection has been presented, and this rejection should be reconsidered and withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 532212001900. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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